CHAPTER 8: TRAFFIC FORECAST

Traffic forecasting estimates are needed for planning which lead to construction, traffic improvements, and pavement design projects. The goal of the traffic forecast is to estimate the future demand on a roadway to determine if any improvements are needed to meet that demand. Forecast show demand on a particular roadway and are not constrained by the roadway itself.

Traffic Forecast

The traffic forecasts for the MITW were developed in 2011 by WisDOT's Traffic Forecasting Section with the Traffic Analysis Forecasting Information System (TAFIS). Traffic forecast can be found in **Exhibit 8-1**. TAFIS is a computerized tool that compiles historical traffic volumes at a specific count site and then performs a Box-Cox regression analysis in order to predict future traffic at that site. The forecasts are based on 2002 and 2009 AADT counts collected by WisDOT. The estimates are a snapshot in time and assume that no major new traffic generators will be developed in the area served by the roadway or intersection over the course of the planning period.

Table 8-1. show the traffic forecasts developed by WisDOT's Traffic Forecasting Section for the State Highways. **Table 8-3**. show roadway traffic capacity used at the planning-level to determine daily thresholds and identify those roads that are approaching capacity. STH 47/55 (Two-lane undivided urban) is projected to see 8,600 to 10,300 AADT in 2040 and has a planning level capacity of 8,000 to 10,000 ADT. According to the projections and the planning level capacity for STH 47/55; improvements are needed to meet future demand. STH 47/55 from Shawano County line to Duquaine Road is scheduled to be reconstructed in 2015 and from Duquaine Road to North Junction of CTH VV is schedule for reconstruct in 2017, which will address future capacity issues. STH 55 (Two-lane undivided rural) is projected to see 850 to 1,100 AADT in 2040 and has a planning level capacity of 14,000 -15000 ADT. STH 47 (Two-lane undivided rural) is projected to see 2,450 to 4,200 AADT in 2040 with and has a planning level capacity of 14,000 -15000 ADT. STH 55 and 47 are not in jeopardy of reaching capacity within the life of this plan.

Table 8-1. MITW State Highway Traffic Forecast Counts

Location	2002	2005	2009	2020	2030	2040
STH 47/55 Between Rabbit Ridge & Lyons Road in Keshena Falls	-	6,100	6,300	7,100	7,850	8,600
STH 47/55 South of Campus Drive in Keshena	-	6,200	6,300	7,700	9,000	10,300
STH 55 South of CTH M East	810	670	790	900	1,000	1,100
STH 55 Between CTH M East & CTH M West	740	-	740	820	900	1,000
STH 55 North of CTH M West	-	600	-	700	800	850
STH 47 East of CTH M North	3,000	2,900	1,800	2,050	2,250	2,450
STH 47 Between STH 55 North & CTH VV	-	3,400	3,200	3,550	3,900	4,200
STH 47 6.0 Miles West of Neopit	660	-	650	700	800	900
STH 47 2.0 Miles South of Menominee-Shawano County Line	2,700	-	2,000	2,500	3,000	3,500

Source: Wisconsin Department of Transportation

Table 8-2. show the traffic forecasts developed by WisDOT's Traffic Forecasting Section for the County Highways. CTH M (Two-lane undivided rural) is projected to see 250 to 800 AADT in 2040 and has a planning level capacity of 14,000 -15000 ADT. CTH VV (Two-lane undivided rural) is projected to see 650 to 3,450 AADT in 2040 and has a planning level capacity of 14,000 -15000 ADT. CTH M and CTH VV are not in jeopardy of reaching capacity within the life of this plan.

Table 8-2. MITW County Highway Traffic Forecast Count

Location	2002	2009	2020	2030	2040
CTH M East of STH 55	710	560	650	700	800
CTH M North of Neopit	510	170	190	200	250
CTH M East of CTH AA	390	340	NA	NA	NA
CTH AA North of CTH M	330	200	NA	NA	NA
CTH VV West of STH 47-55	570	480	550	600	650
CTH VV East of STH 47-55 in Keshena	3,200	2,500	2,850	3,150	3,450

Source: Wisconsin Department of Transportation

It's important to note that the traffic forecast are only estimates and should be treated as such and can change depending on land use and population changes.

Table 8-3. Roadway Traffic Capacity, Planning-Level Daily Thresholds

Cross-Section	Maximum Two-way ADT	Maximum Daily Capacity	Approaching Capacity (85% of ADT)
Two-lane undivided urban	8,000 -10,000	10,000	8,500
Two-lane undivided rural	14,000 -15,000	15,000	12,750
Two-lane divided urban(Three-lane)	14,000 -17,000	17,000	14,450
Four-lane undivided urban	18,000 -22,000	22,000	18,700
Four-lane undivided rural	24,000 -28,000	28,000	23,800
Four-lane divided urban(Five-lane)	28,000 -32,000	32,000	27,200
Four-lane divided rural	35,000 -38,000	38,000	32,300
Four-lane expressway rural	45,000	45,000	38,250
Four-lane freeway	60,000 -80,000	80,000	68,000
Six-lane freeway	90,000 -120,000	120,000	102,000

Source: http://www.co.carver.mn.us/departments/LWS/docs/08TR_R_A_Road_Systems_Plan_091117.pdf

Definitions:

Undivided – An undivided roadway does not have a raised median separating opposing traffic or left-turn lanes for turning traffic.

Divided – A divided roadway has a raised median separating opposing traffic, left-turn lanes and right-turn lanes.

Rural – A rural design implies higher speeds, fewer cross streets/accesses and cross streets/accesses with low volumes.

Urban – An urban design implies lower speeds, more cross streets/accesses and cross streets/accesses with higher volumes.
Freeway – A freeway is a divided roadway with limited access and no traffic signals or other traffic control.

Note: The above table provides planning-level capacity thresholds for different roadway cross-sections. These thresholds can be used to identify existing and future capacity problems. However, because of variations in traffic as well as roadway characteristics, which do not always fall neatly into the above categories, capacity/operational issues should be confirmed through other sources if possible.